AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0013] bridging pages 6, 7, and 8 with the following rewritten paragraph:

[0013] Further, the gas sensor obtained by the present invention, since the outer circumferential surface of the smaller diameter portion is disposed astride the rear end of the tubular metallic~~tubular~~ member and even when the elastic seal member is thermally expanded during use of the gas sensor, can make smaller the stress caused by an edge or burr existing at the rear end portion of the tubular metallic member as compared with a gas sensor configured so that a portion of a cylindrical elastic seal member simply protrudes from a rear end of a tubular metallic member. Namely, the method of the present invention makes it possible to attain a gas sensor that is hard to cause a crack in an elastic seal member though a portion of the elastic seal member is protruded from the rear end of the tubular metallic member.

Herein, while the gas sensor obtained by the present invention can prevent occurrence of a crack at the time of thermal expansion of the elastic seal member as described above so long as the outer circumferential surface of the smaller diameter portion is disposed astride the rear end of the tubular metallic member, it is preferable for the purpose of preventing occurrence of a crack more effectively that a space remains between the outer circumferential surface~~ (outer circumferential surface)~~ of the smaller diameter portion and the rear end of the tubular metallic member after the crimping step. However, in the present invention, the outer circumferential surface of the smaller diameter portion may contact the rear end of the tubular metallic member after the crimping step. This is because even if the outer circumferential surface of the smaller diameter portion contacts the rear end of the tubular metallic member, a resulting contact

pressure is smaller as compared with a case where the outer circumferential surface of the main body portion contact the rear end of the tubular metallic member, and therefore an effect of making a crack be hard to be caused at the time of thermal expansion of the elastic seal member can be expected.

Please replace the first full paragraph [0016] on page 9 with the following rewritten paragraph:

[0016] In the meantime, in order that the outer circumferential surface of the smaller diameter portion of the elastic seal member is disposed astride the rear end of the tubular metallic member when observed with respect to the axial direction of the gas sensor, the above-described disposition step is a most noticeable step but it is preferable in the crimping step to perform crimping of the tubular metallic member so that the outer circumferential surface of the main body portion of the elastic seal member does not protrude outward from the rear end of the tubular metallic member after crimping. In the meantime, in order to perform crimping of the tubular metallic member so that the outer circumferential surface of the main body portion of the elastic seal member does not protrude outward from the rear end of the tubular metallic member after crimping, it will suffice to adjust the rate of deformation of the tubular metallic member by crimping suitably in consideration of the material, hardness, etc. of the tubular metallic member and the elastic seal member. Further, the method of crimping for the crimping step is not limited particularly, and multi-angular round crimping such as six-directional round crimping (round crimping using a crimping tool separated into six sections which are moved in six radial directions) and eight-directional round crimping may be enumerated.

Please replace the first full paragraph [0020] on page 11 with the following rewritten paragraph:

[0020] Further, in the above-described method for producing a gas sensor, it is preferably that the smaller diameter portion of the elastic seal member before compressive deformation has a nearly cylindrical section and a connecting section (stepped section) connecting between the cylindrical section and the main body portion and increasing in outer diameter gradually toward the main body portion.

Please replace the second full paragraph [0056] on page 28 with the following rewritten paragraph:

[0056] Further, the separator 7 the front end side of which is inserted into the inner tube rear end side body portion 62 of the inner tubular member 14 is formed with separator lead wire insertion holes 71 that extend through the separator from the front end side to the rear end side for inserting thereinto the element lead wires 20, 21 and the heater lead wires 19, 22. Further, the separator 7 is formed with a bottomed retaining hole (no numeral)~~95~~ that extends in the axial direction and opens to the front end surface thereof. Into the retaining hole~~-95~~ is inserted the rear end portion of the ceramic heater 3, and the rear end surface of the ceramic heater 3 is abuttingly engaged with the bottom surface of the retaining hole~~-95~~, whereby the ceramic heater 3 is axially positioned relative to the separator 7.

Please replace the first full paragraph [0058] on page 29 with the following rewritten paragraph:

[0058] Further, the element lead wires 20, 21 and the heater lead wires 19, 22 are extended from the inside of the inner tubular member 14 and the outer tubular member 16 to the outside through the separator lead wire insertion holes 71 of the separator 7 and the lead wire insertion holes 1711 of the elastic seal member 11. In the meantime, these four lead wires 19, 20, 21 and 22 are connected at the outside to a connector that is not shown. An external device such as ECU and the lead wires 19, 20, 21 and 22 perform input and output of electrical signals through the connector.

Please replace paragraph [0082] bridging pages 41 and 42 with the following rewritten paragraph:

[0082] Specifically, by additional reference to FIG. 3, a fourth elastic seal member that is not formed with the smaller diameter portion 33 but includes a main body portion and a seal member flange portion is prepared. As shown in FIG. 9, a third gas sensor 200 is formed so that part of a main body portion 231 and a seal member flange portion 232 of a fourth elastic seal member 211 are fixed within an outer tubular member 216 and the remaining part of the main body portion 231 protrudes outward from the rear end of the outer tubular member 216. In the meantime, since the third gas sensor 200 differs from the gas sensor 1100 of the above-described embodiment in the shape of the elastic seal member and the structure at the rear end of the outer tubular member, the portions different from the gas sensor 1100 will hereinafter be described concentratively and like portions thereto are omitted for brevity.

Please replace the first full paragraph [0083] on page 42 with the following rewritten paragraph:

[0083] In the meantime, in the gas sensor 1~~100~~ of the above-described embodiment, the outer tubular member 16 is formed uniform in the rear end inner diameter D before the crimped portion 88 is formed, and the crimped portion 88 is formed after the elastic seal member 11 is disposed inside the outer tubular member 16. On the other hand, in the third gas sensor 200, at the more rear end side than a portion to be formed with a crimped portion 288 (hereinafter referred to as a portion to be crimped) is formed beforehand a larger diameter portion 286 larger in inner diameter than the portion to be crimped, so that the rear end inner diameter of the outer tubular member 216 is larger in inner diameter than the portion to be crimped. In the meantime, the dimensions of the various portions of the fourth elastic seal member 211 and the outer tubular member 216 are adjusted beforehand so that the inner diameter of the portion to be crimped and the inner diameter of the larger diameter portion 286 are larger than the outer diameter of the main body portion 231 of the fourth elastic seal member 211.